AMERICAN VETERINARY REVIEW,

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EDITORIAL.

CONTAGIOUS PLEURO-PNEUMONIA.

However gratifying and desirable it might be truthfully to deny or ignore the fact of the presence and extension of this cattle pest, we grieve to say that it has ceased to be in our power to do so. Until a recent period the disease seemed to be disposed to limit its ravages within a comparatively moderate geographical boundary, and altogether to miss the conditions which seemed necessary to enable it to scale the mountain barrier of the Alleghanies. But reports are almost weekly reaching us of its appearance at various points in the Western States, in a form more or less virulent, and with results correspondingly serious.

The infected district can no longer be defined as circumscribed by State lines, and the former list, comprising New York, New Jersey, Pennsylvania, Maryland and Virginia, must now be enlarged by the addition of Ohio, Kentucky, Tennessee, Illinois, and Missouri. Nor can we stop with this enumeration, for unless the information which reaches us from private sources shall prove to be entirely unreliable, the names of several other Western States must soon still further enlarge the catalogue.

The agricultural papers furnish weekly or monthly reports on the subject, with the localities where the outbreaks occur, and keep us well informed of its history, with the various measures

proposed or adopted to meet and combat the evil, and it will not be long, therefore, before we shall be in possession of an amount of knowledge and a mass of suggestion, acquired at the serious cost of a large experience, which will make the history of contagious pleuro-pneumonia in the United States quite as copious and complete as any which has been compiled and furnished by European writers upon the same subject.

That a largely if not a completely successful result is eventually to reward the measures which have been instituted in several of the States for the enforcement of the sanitary means which have been authorized by the State authorities, and whether or not the severe but proper, because necessary, resort to the butcher's knife and the destruction of every newly discovered victim of the disease is certainly to secure the extirpation of the evil, are matters upon which no man can absolutely pronounce. But there are some facts and conclusions which cannot in any wise be ignored or overlooked—to wit, that the people have at length become thoroughly awake to their endangered interests; that they fully realize the serious, and in some cases the ruinous losses to which their property is exposed; that when money is called for to aid in the practical work of carrying into effect the necessary sanitary processes demanded by the occasion, it is freely contributed; and that sensible and intelligent owners of cattle property are wisely looking for advice and assistance to properly qualified veterinary surgeons as their best, if not their only friends and counsellors in what may already, we fear, be denominated a national emergency.

MEDICUS VETERINARIUS AND MEDICINÆ DOCTORIS.

We publish in this number, by special request of the New York State Veterinary Society, a short paper which was read before that body at their last meeting.

The paper had been prepared with the intention of presenting it before a full meeting, but as the attendance on that occasion was comparatively small, its further publication in the columns of the REVIEW was deemed advisable, in order more fully to give effect to the purpose of the author, the society deeming that the

scope of the essay involves not merely the question of adding a supplementary "M.D." to the title of "V.S." or "D.V.S.," but also the general subject of veterinary education, as now organized and conducted in this country. And, indeed, a careful consideration of the paper will show that it is not to the proposed connection of the two titles that allusion is made primarily and strictly, so much as to the possible harm to the veterinary profession which might result from certain prevalent tendencies.

Many reasons are given which may be, and are alleged, in justification of the proposal to appropriate the additional title of "M.D." With some it is a question of personal pride and social standing; with others it is a method of comparison of the advantages and the objections which may be alleged by either profession. With a few it is a method of disposing of some two or three intrusive years of time, in order to overleap an interval and reach the age when, in their own estimation, they may be more sure of acquiring the confidence of the public. With others—and their reason is the best of all—it is a desire to improve their medical knowledge by filling up what they feel to be a deficiency in their education, which sometimes must certainly have been very defective originally, to need improvement in each one of its various branches. It is not a deficiency which is noticeable in anatomy, nor in physiology, nor in histology, nor in surgical pathology, and so on; it is in nothing in particular—it is *in all;* it is on *every subject.*

The paper was intended to show what the author believes to be an error—almost a loss of time, indeed; and while he holds that the title of "M.D." is one of which every man who can fairly acquire it may feel proud, it has seemed to him that there was danger of the commission of an error by certain young American veterinarians with whom the desire of securing an improved education was less the real motive of their aspirations than the gratification of a little personal vanity.

DEATH FROM GLANDERS—HOW TO PREVENT IT.

One more victim to this fearful disease, in the ranks of the veterinary profession, is to be recorded. A young army veter-

inarian, Mr. James Humphries, has recently died from inoculation with the virus while making a post mortem examination. The news of the sad event is found on another page.

And how many more shall we have to report? Glanders is all over our continent. There is not one of the various agricultural reports which does not mention it. There is not one of the agricultural papers, which, weekly or monthly, does not report its existence. Measures are taken. Some quite rigid and satisfactory, others dead letters of no value; and the result is now and then a case of contagion, a case of death in man. Is it not time for our sanitary veterinarians to give their attention to the alarming extent to which the disease is prevailing, and is it not time for the public to be once for all educated to the fact that the disease is equally incurable and contagious in all its stages? We have just before us a statement taken from a Western agricultural paper in Illinois, where the editor of the veterinary columns, to an inquiry as to whether or not glanders can be cured * * * answered "*yes, glanders can be cured in the first stages and sometimes in the second.*" * * * Veterinary answers may do good in agricultural and sporting papers, but the editors of such columns ought to be at least men of education, men who know the subject they are discussing, and opinions like the one referred to ought not to be allowed to be put before the public. The only way in which it seems to us the people could be educated, would be to follow the example so well put in practice in Europe. And that is by scientific, and at the same time, practical conferences, which educated veterinarians ought to be asked to hold in their various states, not only upon that disease but upon all similar ones. Pleuro-pneumonia is now pretty well understood; why? not so much on account of what has been written upon it as to the numerous discourses and public discussions which were held upon it. Why not do the same for all other contagious diseases? Glanders and rabies are among them. Both carry off numerous victims through ignorance of their dangerous powers. Is it not the duty of veterinarians to teach the public what it is so much to their interest to know. We believe it, and we also believe that if this was done, the number of human deaths which have to be recorded, would to a very great extent, be diminished.

ORIGINAL ARTICLES.

SHOULD EXPERIMENTS ON ANIMALS BE RESTRICTED OR ABOLISHED?*

By Robt. Meade Smith, M.D., Professor of Comparative Physiology, University of Pennsylvania.

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Thus a French commission kept thirty-four vaccinated and twenty-four non-vaccinated cattle in close contact with other animals which were infected with this disease. Of the vaccinated animals only one, *i. e.* three per cent., contracted the disease, while of the non-protected fourteen were affected, *i. e.* 57 per cent. So also in the Veterinary School in Utrecht, twenty-one vaccinated and five unvaccinated cattle were placed in a stable with six animals suffering from contagious pleuro-pneumonia. During thirteen weeks not one of the protected animals was infected, while four of the five non-vaccinated died.

Bnt although these experiments were commenced more than thirty years ago, it is only comparatively recently that their trne value has been recognized. Up to 1878 contagious pleuro-pneumonia was so prevalent in Holland that the importation of cattle from that country was strictly prohibited by all its neighboring states. A law was then passed in Holland which made compulsory the vaccination of all cattle in infected districts, and the effect has been that the disease has been there nearly entirely eradicated; in fact this success has been so complete that it was at one time almost impossible to procure fresh lymph for vaccination purposes.

All that could be urged against vaccination as a preventive of this disease was the occurrence of marked inflammatory reaction at the point of inoculation, which is usually in the tail; but the value of the method is now so clearly recognized that tailless cattle are especially valuable. The mortality from the operation,

*An introductory address to the course of lectures on Comparative Physiology. Reprint from the *Therapeutic Gazette.*

according to the statistics published by the Dutch Government, is only four-fifths of one per cent., and since Vorriest and Bruylant, professors in Brussels, have discovered a successful method of cultivating a protective lymph, there is no reason that vaccination, as a preventive of this cattle plague, shonld not ultimately become a universal method. At present Holland and France are the only two countries where it is compulsory. It is to be hoped other countries will soon imitate their example.

So also swine plague has been found to be due to the presence of an organism of the same character as that of anthrax, and there is every reason to believe that by a similar system of cultivation and inoculation this extremely contagious and fatal disease will be finally subdued.

Again, sheep small-pox resembles the same malady in man, but is not prevented by vaccination. We may with every reason believe that inoculation with the cultivated virus will prove as beneficial in this disease as vaccination in arresting the spread of human small-pox, though as yet all attempts at obtaining a sufficiently attenuated virus have failed.

For a long time glanders was known as a fatal disease to which horses were liable, but it was supposed to be an ulcerous disease of the respiratory organs, due to general causes such as extremes of heat or cold, fatigue, dampness, unhygienic surroundings or insufficient or improper food, and studied in horses alone was supposed to be extended only by a community of the general causes above alluded to. Studied in man alone, its true origin was not recognized, and what we now know to be glanders in man was described as "putrid fever," etc. Rayer was the first to prove, experimentally, that glanders, previously regarded as a non-contagious disease, was communicable from animal to animal and even to man, and by inoculating the discharge from a man suffering from the so-called "putrid fever" into a horse, was able to produce well-defined glanders. Saint-Cyr, after the contagiousness of acute glanders had been recognized, proved that chronic glanders, previously regarded as non-communicable from animal to animal, was also strongly contagious, by inoculating an ass with the fluid from chronic glanders. This animal is strongly

susceptible to glanders virus, and chronic cases in horses, in which the contagion is not strongly marked, if brought into contact with this animal develop a violent form of the disease, which is again transmitted in its aggravated form to horses. Often the only means of forming a diagnosis of this disease, especially in its chronic form, is by inoculation into healthy animals. The value of this diagnostic point cannot be over-estimated, and is alone worth all the experiments that have ever been made on animals; for as glanders is, as yet, incurable, the existence of a single case of unrecognized glanders endangers the life of every animal and man in the neighborhood. But if recognized early in its course, by the timely isolation or the destruction of the subject in which it appears, the loss of immense numbers may be saved.

It has long been known through experiment that tuberculosis, or consumption in cattle, was not only contagious in cattle, but through means of their infected milk or flesh when used as food, was capable of transmission through numbers of species of animals, among whom man does not escape, and the organism, which in all probability is the cause of this disease, has only recently been isolated.

From analogy we may hope that proper cultivation of this virus will add another to the list of diseases which experiments on animals have placed under our control.

The latest addition to the already long list of diseases which have been brought under control through experiments on animals, promises to be the most valuable of all. In the International Medical Congress, which was held this summer in Copenhagen, Pasteur announced the results of the studies which he had been carrying on for the last four years, as to the possibility of preventing rabies. Every disease, and especially such a disease as rabies, immediately makes one think of its cure; but to set oneself forthwith to search for remedies is to expose oneself to what is only too often a fruitless labor. It is in a manner to trust to accident for advance. Better far is it in the first place to study the nature of the disease, its cause and development, with the hope of thereby discovering means of preventing it. The fact that the problem of rabies is no longer insoluble, is distinctly due to these methods.

Thus it has been proved that the virus of rabies always develops itself in the nervous system, in the brain, the spinal cord and nerves, and in the salivary glands, and never simultaneously invades every part. It may, for example, fix itself in the spinal cord and then attack the brain; or one may find it in one or more parts of the brain, and not in others. The sole point in which the virus of rabies is invariably localized in all cases of rabies, and all cases are invariably fatal, is in the medulla oblongata; and if the virus extracted from this portion of the nervous system is inoculated on the surface of the brain of a dog, rabies is uniformly produced. These two facts were the starting point for the discovery of a means of preventing this disease, which never arises spontaneously; but by themselves they would be of minor importance had they not led to the discovery of a method by which the virus of rabies might be so attenuated as to permit of inoculation without producing dangerous symptoms, and at the same time confer complete immunity to the disease. The great difficulty that was met with at the outset of these studies was to obtain some standard by which attenuation of the virus might be recognized; for, as is well known, after being bitten by a mad dog, there is nearly always the greatest difference in the duration of the period of incubation before the disease becomes manifest. Pasteur, however, found that while this period of incubation was very variable, according to the different modes of inoculation, it was uniform when the virus was injected under the arachnoid membrane, the interference with the length of the incubation period after a bite or intravenous injection depending upon the quantity of the virus which reaches the brain, while after inoculation into the brain the incubation is inversely proportionate to the strength of the virus.

Having thus established a means of recognizing degrees of virulence in the poison of rabies, the next step was to artificially produce such an attenuation of virus as to produce no dangerous symptoms, and yet confer immunity from the disease.

Jenner was the first to propound the idea that the poison which used to be called "grease" in horses, but which we now describe as horse-pox, must be attenuated in virulence by being

transmitted through cows before it could be introduced without danger into the system of man. This led Pasteur to think that the rabies virus might be attenuated by passing it through the bodies of other animals. Many attempts were made, but in the majority of cases, instead of decreasing, the poison gained in virulence. Fortunately, however, in the monkey an animal was found which possessed the peculiarity of attenuating the energy of this virus. Successive transmissions from monkey to monkey produced a virus with a gradually increasing period of incubation on again being transmitted to other animals, though if continued again through a series of animals more susceptible than monkeys to the virus, the original virulence was regained. The application of these facts yielded a method of vaccinating as a protection against rabies. The starting point was one of the rabbits which had been inoculated from monkeys to such a degree that hypodermic or intravenous injection did not cause death. The succeeding protective inoculations with the extract from the brains of the rabbits which had been the subjects of successive transmissions of infection from rabbit to rabbit, proceeding from the first infected.

To demonstrate the truth of the protection against rabies conferred on dogs by this system of inoculation, Pasteur submitted to a commission appointed by the French Minister of Instruction, nineteen dogs thus rendered insusceptible to rabies, while the commission selected nineteen other trial dogs not thus protected. The commission report that in the case of the nineteen trial dogs, of six that were bitten, rabies occurred in three; of seven that were inoculated in a vein it occurred in five; and of five that were inoculated by trephining it occurred in all, while not a single sign of rabies has shown itself in any of the nineteen protected dogs, though they were treated in the same manner as the trial dogs. The commission are at present engaged in experiments as to the insusceptibility to rabies of twenty dogs vaccinated by themselves, but their report has not yet been made public.

Thus we have seen that in clearing up the processes of disease, in devising means of prevention and in limiting the spread of contagious diseases, experiment on animals is absolutely indis-

pensable, both for the good of animals and of man. For if man benefits, so do animals; a discovery which averts disease in one will probably protect others. Every advance in knowledge is a benefit to all.

To prohibit resort to experiment would be at once to doom animals, which we are bound to protect, to the endurance through all time of diseases which might otherwise be overcome. This has been our experience in all diseases which have not yet been capable of experimental study, and we may reasonably hope that the future will greatly extend the scope of our field of action. One thing is, however, sure: Experiment is the only possible avenue by which such success can be reached.

CONTAGIOUS PLEURO-PNEUMONIA.

Thesis presented by W. ZUILL, D.V.S., before the University of Pennsylvania, Medical Department.

(*Continued from page* 67.)

CASE No. 3.

With the single exception of cough, this animal might have been considered perfectly healthy. She was so extremely wild, that she had to be shot. There was not the slightest ocular demonstration of disease. On opening the pleural cavity a condition very similar, but if possible, more aggravated than in case No. 1 was seen. But the lesions were older and more chronic; there was less effusion in the chest cavity, the fibrous exudate was more organized and not so easily detached as in the other case.

The central portion of the lung was much more advanced than was either the apex or base. On section through the centre of the organ, it was found that the inflammatory condition had gone on to suppuration, forming an immense abscess, filled with pus and pieces of lung tissue, the largest of which weighed about five or six pounds. This large abscess was surrounded by a band of dense connective tissue, in some places over one inch thick. The superior and lateral external walls of this abcess were agglutinated to the adjacent chest walls, indicating that it would sooner or later have discharged itself, possibly through the costal parieties.

But the invasion of fresh tissue would probably have killed the animal before this could have taken place, it having already begun in the remaining lung, the evidence of which was seen in the deep staining of the tissue, the line of demarcation being very abrupt and well defined. The staining seemed to be due more to the coloring matter of the blood, than to the blood itself.

Having disposed of these cases, we proceeded to the next farm, where five were treated in a similar manner, all presenting more or less, the obvious symptoms of the disease, and the post mortem showing the same characteristic lesions. I shall therefore not describe them in detail. In one case where the temperature was 106°, the visceral pleura was much disturbed with serum forming one large bleb.

The onset of the disease, in the cases quoted, was obscure, and no definite cause could be traced.

Since the outbreak of this disease, September 5th, '83, in this state, 71 animals have died and 16 others are affected, and the prognosis for a speedy termination is unfavorable. The animals usually die of asphyxia.

The blood, however, contains even during life a spherical bacterium, a micrococcous, as discovered by myself in my investigation of this disease, in the pathological laboratory of the University of Pennsylvania, and to which I shall refer later on. But before making the above statement, I wrote to Dr. A. Liautard, Prof. of Surgery and Anatomy in the American Veterinary College, asking if anyone had discovered or described this microbe, as I did not wish to claim anything that rightfully belonged to another.

He writes as follows :

NEW YORK, March 7, 1884.

My Dear Doctor :

I do not know yet, that it has been isolated and cultivated, as those of the other contagious diseases, such as anthrax, hog or chicken cholera. I regret that I cannot give you more positive information, but hope this may be of use to you.

With best wishes, I remain, yours truly,

A. LIAUTARD.

PATHOLOGICAL ANATOMY AND RESUME OF MACROSCOPY AND MICROSCOPY OF THE LESIONS.

From the foregoing record, and from the above observations, (as illustrated by my own microscopic examination) the following may be said in relation to the pathological anatomy of this disease. There are no distinctive or characteristic lesions found on external examination of the dead animal, such as would give any definite idea of the cause of death, or of the nature of the disease. The only prominent symptoms however, are great distention of the belly, frothing at the mouth, and a purulent discharge from the nostrils. The blood is found to be dark or black in color, in a fluid or semi-fluid condition, or in the larger blood vessels, may form soft friable clots, and is loaded with carbonic acid gas. The microscopical examinations, which I made of the blood of animals suffering from this disease, were conducted in the laboratory of the University of Pennsylvania. Some of the examinations were made from animals that had perished of the disease; others were made from the blood taken during life by bleeding at the ear; in other instances the blood was taken while the animal was being slaughtered.

Extreme care was taken to prevent contamination from the air or surroundings. The method of collection and examination were as follows: Sometimes I collected the blood into sealed tubes, by introducing the sealed extremity of the tube into a vein, and breaking off the end of the same within the vessel, in this way the blood was drawn into the tube without the least possibility of contamination; it was then at once sealed. At other times the fresh blood was smeared upon glass covers and rapidly dried. In this dry condition it can be preserved for an indefinite time in clean boxes. If any extraneous matter should fall upon covers prepared in this way, it would at once be recognized as foreign to the dried mass upon the cover, as it would be seen in a different focus, under the microscope, being located superficially. Besides all extraneous germs, or foreign matter, can be easily washed off from the prepared glass covers. The blood thus dried upon these covers was then treated with analine dyes, precisely after the method for staining sputum. For the first dye, analine blue

being usually employed, and for the second vesuvine, which gives the background. The blood collected in the sealed glass tubes was treated and prepared for examination in a similar manner. Examining the blood in such preparations, I observed that the white blood corpuscles were, as a rule, more numerous than normal, and as a constant appearance in the blood of this disease was the presence of a MICROCOCUS, this bacterium was found in large numbers, either singly or in pairs, or in torular chains, and most frequently in zooglia masses, this appearance being represented in the aecompanying drawing, and from an original preperation, aud reproduced directly from the microscope, by the aid of the camera lucida. This sphero bacterium is of pale white or yellowish color, and in micrometic measurements, is shown to be on the average one fifteen-thousandths of an inch in diameter. This organism I never failed to find in any of the cases observed by me, either during life or after the death of the animal.

(*To be continued.*)

INFLAMMATION.

By E. MINK, V.S.

There is perhaps no topic in pathology that has been so thoroughly investigated as the morbid process known by the term inflammation; yet at the present time it is difficult to give a short and adequate definition of this term. Nearly all, however, who are now regarded as authority on this subject agree substantially upon its processes, products, variations and terminations.

The morbid process known by the term inflammation consists of a succession of changes in the living tissue of the parts affected, and take place in nearly the following order:

First, changes in the blood vessels and circulation; second, exudation of liquor sanguinis, and migration of blood corpuscles; and third, alteration in the nutrition of the inflamed parts.

Recklinghausen, in 1863, discovered the existence of wandering cells in the tissues. This discovery raised a doubt of the correctness of the theories of inflammation advocated by Vir-

chow. The latter held that the essential changes in inflammation took place in the solid tissues outside of the blood-vessels. He maintained that the primary and chief effect of an inflammatory irritant is the excitation of the cells of a part to increased functional and nutritive activity, and that hyperæmia and fluid exudations from the blood are secondary to this excitation.

When Virchow made his investigation on inflammation, but little was known in regard to the migration or wandering powers of white blood corpuscles. He held that all cell elements present in inflammatory exudations were produced by proliferation from the pre-existing cells, most frequently from connective tissue cells.

In 1842 Dr. W. Addison described somewhat incompletely the passage through the walls of the blood-vessels of white blood corpuscles.

In 1846 Dr. Augustus Waller described more fully the same phenomenon. Both these observers concluded that the escaped corpuscles became pus corpuscles. Their observations were but little noticed, and soon forgotten.

Additional and important light on the pathology of inflammation was obtained by Conheim, in 1867, when he made investigations similar to those of Addison and Waller, which verified their observations and clearly established the fact of the emigration of blood corpuscles during the process of inflammation.

Conheim's experiments were made upon the frog, paralyzed by subcutaneous injections of curara. He caused artificial inflammation in transparent tissues, such as the web, tongue and mesentery of the frog.

The first effect of an efficient irritant is dilatation of the arteries, and after a brief interval the veins and capillaries become similarly dilated. Dilatation of the arteries commences immediately after the application of an injury, and slowly increases for about twelve hours, and is "accompanied by an increase in the length of the vessels, so that they become more or less tortuous." At the same time the movement of the blood current is increased. This acceleration in the flow of blood seldom lasts more than an hour. The velocity of the current

then begins to diminish, and may continue until complete stasis in the capillaries is effected. This result is not usual except when the action produced by an irritant is intense.

While the slowing of the circulation continues, the white blood corpuscles are seen accumulating along the inner surface of the veins until they nearly fill them.

The red blood corpuscles also accumulate, but principally in the capillaries. Thus these vessels become almost choked by the suspended movements of these minute bodies. The obstructed vessels cause the circulating current to become slower and slower until in many of the vessels it is almost completely arrested.

The intensely interesting phenomenon of corpuscle migration now takes place. This is the moment in which the eye of the observer will be intently fixed on the outer surface of the vessel. To quote Prof. Conheim's words, "Here and there minute colorless button-shaped elevations spring just as if they were produced by budding out of the wall of the vessel itself. The buds increase gradually and slowly in size, until each assumes the form of a hemispherical projection of width corresponding to that of a leucocyte. Eventually the hemisphere is converted into a pear-shaped body, the stalk end of which is still attached to the surface of the vein, while the round part projects freely. Gradually the little mass of protoplasm moves itself further and further away, and as it does so begins to shoot out delicate prongs of transparent protoplasm from its surface in nowise differing in their aspect from the slender thread by which it is still moored to the vessel. Finally the thread is severed, and the process is complete. The observer has before him an emigrant leucocyte."

Conheim's conclusion drawn from the foregoing facts, is that all corpuscles found in the inflamed tissue outside of the vessels during the first stage of acute inflammation, are those that have escaped from the blood-vessels, as before described. But this does not preclude the probability that they originate, in a later stage of the process, in the manner advocated by Virchow; that is, by proliferation from pre-existing cells, in the tissues outside of the blood-vessels.

Another important process, closely connected with leucocyte migration, is the exudation of liquor sanguinis. This phenomenon has long been regarded as a chief characteristic in inflammation. It is one of the phenomena which could not easily have been overlooked, as without it the pre-eminent symptom of swelling could not well be otherwise explained.

In severe forms of inflammation, red corpuscles also escape from the blood-vessels in much smaller number than white; yet in some instances sufficiently numerous to give to the effusion a hemorrhagic character.

Since the discovery of emigration of blood leucocytes, it has been argued that their escape from the capillaries would be impossible, unless these vessels were porous. It has been held that this could not be, as injections have been made of so-called soluble prussian blue, without the slightest extravasation taking place.

It would seem that if the porosity of the capillaries is a necessary condition in order to facilitate the passage of leucocytes, then the objection is a valid one.

But this objection is answered by the fact that the capillary is not a dead conduit, but a tube of living protoplasm. And that it is not difficult to conceive how the "membrane may open to allow the escape of leucocytes, and close again after they pass out."

The amorboid movements of blood leucocytes is admitted; and it is known that when a mass of protoplasm is separated in two parts, and again allowed to come in contact, they close as perfectly as if they had not been severed.

Furthermore, recent histological examinations have shown that the capillaries are composed of a "thin elastic endothelial membrane, namely, a single layer of nucleated cell plates. This endothelial membrane resembles other membranes in that its cells are united one to another by an albuminous intercellular cement substance, which latter, in nitrate of silver preparations, is seen as dark irregular lines separating the cells."

Sanderson says that "the distension of the capillary vessels, which occurs during inflammation to an abnormal degree, is such as to cause a separation at many points of the intercellular

cement substance. Thus we have formed minute openings, called stigmata, which are gradually enlarged into stomata. Winniwarter found, when such vessels were injected, that an escape of the injected substance may take place through these openings."

If this condition exists during inflammatory action, it is very probable that diapedesis of colored and migration of colorless corpuscles may take place through these abnormal openings, the result of over-distension of the capillary blood-vessels.

Furthermore, Purves has found that the capillary vessels, through which colorless corpuscles have migrated, upon being stained with nitrate of silver, show that the migration is limited to the intercellular cement substance of the endothelial wall.

Before taking up the third important change in inflammation, namely, alteration in the nutrition of the inflamed parts, I will briefly summarize the various processes I have considered in the foregoing.

It has been shown that in inflammation the arteries are first dilated, that this dilatation slowly increases for several hours, that the length of these vessels is increased so that they become tortuous, that the blood current is increased, that this acceleration in the flow of blood seldom lasts longer than an hour, that the velocity of the current then begins to diminish and may continue until complete stasis in the capillaries is the result, that the latter condition is attended with exudation of liquor sanguinis and migration of blood corpuscles. These former constituents of the blood are termed "products of inflammation," and collectively constitute what has commonly been called coagulable lymph.

Perhaps it will be well to state, in connection with the exudation of liquor sanguinis, that the constituents of this fluid resemble the plasma of the blood, except that it contains less albumen. "It contains," says Flint, "the fibrine generators, and in most places finds the conditions necessary for the spontaneous coagulation of the fibrin. A fibrinous effusion is in the vast majority of cases an inflammatory exudation. In simple inflammation of mucous membranes and in suppurative inflammation (abscess), no fibrin is formed."

(*To be continued.*)

COLICS IN HORSES.

By Mr. Laquerriere.*

(*Continued from page* 72.)

The differential diagnosis of colics, or more properly, of the lesions of which they are the symptomatic expression, is by common consent of the best qualified practitioners and authors of the first repute, conceded to be a work of exceeding difficulty. But must we, therefore, accept the conclusions of M. Roll, and agree that it can only be reached by studying the progress of the disease, watching its terminations, and waiting for the result of the treatment? To accept a decision like this would be equivalent to a renunciation of our confidence in the treatment of this class of cases, and would reduce our diagnosis to the mere *aposteriori* revelation of a post mortem investigation.

Under these conditions it would be better to accept the opinion of Reynal, who says: "if it is true that in cases of colics we are frequently unable to go back from the symptoms to the determining cause, and to fix positively the nature of that cause, it is at least also true that it is possible, by careful study of all the characters which belong to colics, to form a diagnosis which, if not positive, may be at least, strongly probable, of the nature of the pathological alterations which give rise to it."

It results from these well founded considerations that the diagnosis is, in fact, really possible in a certain ratio of cases, though not in all, just as we sometimes encounter cases of lameness of which it baffles our ingenuity to discover the seat, or correctly to define the cause.

The practitioner who encounters one of these inscrutable cases, should, nevertheless, never hesitate or decline the duty of attempting a diagnosis, and to aim at success, as remarks Reynall, by pursuing both the analytical and exclusive or synthetic processes. He should study the various attitudes of the patients and their different movements and actions, and if it is true that these attitudes and actions are common to the many diseases which

* Translated from *La Presse Veterinaire.*

manifest themselves by colicky pains, they do also in some instances present special characters, which become of indispensable value in aiding us to make our diagnosis full and correct.

In order to complete this part of our paper, it would be necessary to refer separately to each of the abdominal affections which give rise to colics. This, however, would lead us too far, and we can only devote a few words, *grosso modo*, to the more essential characters, and those only for our guidance towards the differential diagnosis, by successively considering each of the groups of the classification we have made.

First Group.—This includes the *nervous*, *spasmodic* and *rheumatic* forms of colic, and generally manifests itself a long time after the animal has eaten or drank, and often on returning from a long journey. They are produced by an irritation of the peripheric extremities of the sensitive nerves of the stomachal or intestinal mucous membrane. The pains they produce are partly continuous, but vary in intensity with a duration of two to three hours. The abdomen is retracted, the respiration accelerated, and without dyspnœa; when exercised, motion is not painful, and in some instances seems to afford relief. The diagnosis is easy and the prognosis not serious except in case of possible complications.

Second Group.—Wind colics or gaseous indigestion are at the head of this list. It is common in cribbers, and furnishes an evidence of the bad condition of their digestive apparatus. There is intestinal pneumatose at first frequent, becoming more common at a later period, and then occurring after each digestion. A spontaneous cure often occurs or it is relieved by treatment until the day comes when some complication is presented, and the patient succumbs.

It is recognized by the swelling and tympanitic condition of the abdomen, which becomes hard, resisting, and more or less resounding on percussion. This variety of indigestion cannot be mistaken for that complication of tympanites which is a result of serious intestinal affections. The history of the patient will greatly assist in the discrimination and determination of the diagnosis.

Following the wind indigestions, we place collectively all sim-

ple indigestions, or such as are complicated with overloading. Their more common symptoms, of varying intensity, may be enumerated as: an anxious expression of the face; dilated nostrils; head low; dyspnœa; hardness, distention and heaviness of the abdomen; and apparent pain and hesitation in walking. The colics are generally continuous, with violent exacerbations, the patient falling down heavily and complaining loudly. The conjunctivæ are injected, even cyanotic, with a slightly yellowish hue. The mouth is warm; there is frequent gaping and there is constipation and urinary suppression.

As in all gastro-intestinal affections, the lesions are generally common to the entire digestive canal. When, however, the seat of the trouble is principally in the stomach, the dyspnœa is more marked, and efforts at regurgitation are at times observed. When the trouble exists in the intestines, the large colon is the region principally affected and tympanites is rapidly developed, principally in the right flank. Vertiginous indigestions are recognized by the nervous symptoms they give rise to.

In indigestions with overloading, the diagnosis is still somewhat easy. The prognosis must, however generally be a guarded one, on account of the serious complications with which they are likely to be accompanied. These forms of colic are generally observed shortly after the ingestion of food, both liquid and solid.

Third Group.—When these forms are essential, they appear suddenly in well bred animals or in those of plethoric disposition and in good condition of health.

The congestion which takes place has its seat principally in the small intestines. It is essentially active, and manifests itself in violent pains, with constant struggling; increased, short and accelerated respiration; strong and rapid cardiac contractions, strong, full and accelerated pulse; expression of great suffering in the countenance; abundant perspiration in certain parts of the body; dilated eyes and staring look, with the conjunctivæ red and injected; and ineffective efforts at defecation and micturation. The enterorrhagia is but a complication of the intestinal congestion. It characterizes one of the fatal terminations, and is shown by the general diminution of strength and the pallor of

the visible mucous membrane. The contractions of the heart perhaps increase in intensity, but the pulse becomes depressed, with increased quickening and gradual weakening, until it becomes wholly inpreceptible.

To an experienced eye, this diagnosis is not difficult. The prognosis is always serious, although the intestinal congestion may be treated with success if undertaken at the onset. The treatment produces a greater or less degree of delitescence. When hermorrhage is present a fatal termination is to be looked for.

(*To be continued.*)

MEDICUS VETERINARIUS AND MEDICINÆ DOCTORIS.

(A paper read before the New York State Veterinary Society, by Dr. A. Liautard, V.S)

In offering you, Mr. President and gentleman, this paper this evening, I wish in the beginning, to make a preliminary statement which I hope will be fully comprehended. I desire to have it understood that I do not present my remarks as coming from one who objects to the means employed in furtherance of the interests of the cause of thorough education. To secure this invaluable acquisition; to perfect himself in his calling; to be able to apply all the means by which he can make himself fully master of his trade, his profession, his calling, is an achievement honorable in itself, and to effect which is perfectly justifiable by all honorable means. But at the present time my object is to suggest for your discussion and judgment the question, whether I am right in my appreciation of the tendency betrayed by many young veterinarians in our day, to endeavor to rush from the halls where they have just graduated as V.S. or D.V.S., directly to the lecture desk, and to become forthwith eligible to a degree of M.D. In other words, is this at the present time, a title which it is indispensable for men in our calling to possess? Is it for the honor of prefixing the M.D. to their D.V.S., or is it their need of a more complete medical education

which urges our young graduates in veterinary medicine to matriculate at a human medical college?

I may be in error, but as the result of much questioning in my own mind upon the subject, I am constrained to give a verdict in the negative. I cannot conceive it otherwise than as a poor compliment to their first *alma mater*, and as proving a want of appreciation of their knowledge and their ability, and of the real importance of their profession. If I am right, it is a step which ought to be discouraged, and if possible, checked, or the veterinary profession must for years to come fail to maintain, as it failed in times past to acquire, the position it ought to occupy, and suffer itself to be thrown back to its old ignoble place in public appreciation.

The past experience of the profession in Europe, whatever faults and misdirections may have characterized it, may always be advantageously studied by the New World. Let me inquire of you, how many veterinarians of the Old Continent do we find posessing the degree of Doctor of Medicine? In Germany, we might perhaps, find a certain number, but it is only recently that in France, a few persons, who by special calling, or under peculiar directions in their daily attendance, have passed the examination for medical doctors, while, so far as I am yet informed, England has not an M.D., M.R., C.V.S., on her long list of veterinary graduates. But have the majority of the veterinarians of Europe failed to appreciate their importance; do we find in England fewer celebrities in veterinary science than in France, and are there less in the last named country than in Germany? What were, or what are the Percivall, Bray, Clarke, Spooner, Williams, Robertson, Fleming, and so many other English veterinarians? What of the Delofoud, Renault, Toussaint, Nocard, Leblanc, Bouley, and hundreds of other graduates of the French schools? And again, amongst the Germans, how many could we not name, who are not M.Ds, but who still hold a world-wide veterinary reputation?

What does this prove, but the frequent fact that veterinary science furnishes an ample field, and quite sufficiently extensive to enable man to make his name, to fulfil his duties and to pay

all his debts to his chosen profession, if he will but consent to realize his importance and value, and to strive and labor accordingly.

But what is to be done by our young American graduates? For what reason do they desire this new degree? Has one, or have any among those who have obtained their physician's diploma, done anything for the veterinary profession? Have any of those who claim to have "completed" an education, which they must have considered as previously deficient, distinguished themselves by writing or publishing anything that has shown exceptional attainments, or proved the possession of merit over others of their own degree? Has one, or any of their number, brought to the medical world any newer discoveries, propounded any more original theories, or introduced any fresher facts than can be credited to the fact of their *so considered more completed education?* If I am ignorant in this matter, let me know it.

Of course, young veterinarians cannot be considered complete masters of their science. How could it be otherwise with the short term of study, which is considered sufficient by our American institutions? But is it so insufficient, so defective, so unsatisfactory, so incomplete, that a year longer in the lecture room, or a spring session in the dissecting room of a medical college is necessary to make it available?

If we look at an occurrence which recently took place in this city, what would the answer be? A young veterinarian, a graduate of one of the New York colleges, entered a medical college of this city directly after receiving his D.V.S. He worked hard, no doubt; he was a good student at the veterinary, and was bound to be in a medical college. After one year's study of human medicine, he graduated fifth out of a class of 189. Was not that a powerful evidence that his veterinary knowledge, theoretical, if you wish, was all that could be required? Did he not possess, when his degree of D.V.S. was granted, all the essential requirements of general knowledge, of medical knowledge, of the general principles of medical science, and did he not have the essential elements for private study? Of what wonderful use to him was his veterinary education already, and what ad-

vantage would it have been to him if he had worked with it? Will his human medical degree be as useful to him?

Looking a little farther back, do we not find one among us, who to-day counts upon a great future in the veterinary profession—he also has an M.D. Shall we ask him how long he remained with his human medical *alma mater*, and how many lectures he attended there? And when he received his degree, as he desired to do, I am sure he could not help thanking his first medical education, for the teaching he had received at his veterinary *alma mater*, as the source to which he owed his recently obtained degree.

Gentlemen, I believe this step to be an error on the part of young graduates, and one which I think ought to be discouraged. If more education is what is needed; if more perfect knowledge is desired; if a post-graduate school would be thought useful—and it is, perhaps, always useful—well and good; let us have it. But let us obtain it through the proper channel; which is that in which you have already studied. If you intend to become thorough in your veterinary education, go where you can improve yourself in veterinary knowledge. If you feel that your *alma mater*, when making you a V.S. or a D.V.S., has not revealed to you all the secrets of physiology, of practice, of materia medica, of any of the branches of veterinary science, go to another veterinary school if you desire, or study at home. You are in possession of all the elements necessary to improve yourself in your own profession, and the fact of attending a few lectures on human medicine will certainly not be of the great advantage which you anticipate. Be a V.S. in the strict sense of the work. Elevate your profession and your title, and yourself by that title. You can as certainly do it, as those to whom we have already referred, without attaching an M.D to your name.

I know, Mr. President, that the advantages which are gained by the veterinarian who is a physician, in being able to join medical societies, is used by some as a strong argument. But does that stand upon as good and solid ground as at first it seems to? It is, of course, a fact that much information and benefit may be obtained from these sources, but cannot equal benefits be secured

by the formation of veterinary societies? In our days, these organizations are met with all over the country—city, county and State. Veterinary associations exist everywhere. Is it not to these that the veterinarian ought to look for his information? And again, is it a necessity to be an M.D. to attend a human medical gathering? It do not believe it to be so. On the contrary, I am sure that in this city any medical society would kindly listen to a veterinarian, though he might not be a graduate of human medicine. Still, I do not believe that your degree of physicians would open to you the doors of all medical bodies.

To resume: In thanking you for your attention, I consider that it is an error on the part of young graduates in veterinary medicine to expect to improve their veterinary knowledge by attending a medical school, fresh from their veterinary *alma mater*, merely to obtain an M.D. I consider that if further medical instruction is required, it is to a post-graduate veterinary institution that application should be made, and that the qualified veterinarian can make his way through the world, and make for himself a name, by working hard only in his own proper specialty, and that if human medical education is to be of any advantage to him, it can only be under some very few and peculiar circumstances, such as those presented by a few European veterinarians, who in a later period in their life were called upon to fill special positions in some given specific plans of education.

REPORTS OF CASES.

REMOVAL OF A CYSTIC CALCULI.

By W. D. Critcherson, D.V.S.

A brown mare which I have had in my possession for several years, and who, during that time, until recently, has never been unfit for work, is now worse than useless. Early last fall I noticed that after being driven, she would immediately on being stopped micturate, the act being accompanied by more or less pain, as evinced by expulsive efforts and spasmodic movements of the tail. The urine, when at first noticed, was passed slightly

reddened. As time passed on the symptoms of irritation and pain increased whenever the mare was driven. If driven a short distance, the act of micturation was immediately performed on being stopped.

At such times the irritation manifested was slight and the urine only slightly reddened; but if driven three or four miles the irritation was more severe and the urine was blood-red.

Through the winter the symptoms increased and much curiosity was excited by the mare that passed blood. Wherever she was stopped she left a trail of blood in the snow.

She was finally in such a condition that it was impossible to drive her; even the slightest exertion caused her to pass bloody urine.

She is in excellent condition otherwise; never looked better in her life, but she has not been used at all in some time. Such was the history given me on the 30th of March last, by a gentleman representing a large manufacturing company in a town about thirty miles from this city. Had she been under treatment? "Yes; thought it was kidney trouble and treated for that. What do you think is the matter?"

"Cystic calculi or stone in the bladder."

"Well, come up to-morrow and take it out."

Left town on an early train the next morning and arrived at my destination about seven o'clock.

When the mare was backed out of the stall I found her fat and manifesting every sign of good health.

She was trotted a short distance and then tied on the floor and left quietly. In a few minutes, after one or two ineffectual attempts, manifested by stepping with the hind feet, expulsive efforts and whisking of the tail, she passed about six ounces of urine slightly tinged with blood.

I then gave her, hypodermically, gr. iv. morphia; secured both hind feet with hobbles and a line passed between the fore legs and over the neck.

Giving the line to an assistant, who also held the twitch applied upon her nose, I first passed a soft metal catheter, keeping the end closed, as I did not wish to draw the urine if there should be

any in the bladder, but used the catheter as a sound. On entering the bladder the catheter came in contact with a solid body. There was no urine in the bladder, and on tapping the foreign body the characteristic sound and feeling was transmitted by the metal catheter. Withdrawing the catheter I first emptied the rectum, and then made an examination per vagina, and found that the stone was freely movable within the bladder. I then attempted to dilate the meatus, and in a short time was able to get three fingers into the opening.

But the expulsive efforts became so severe that I gave another hypodermic of gr. ii. morphia. Then with my left hand in the vagina, I introduced with my right a pair of long-handled forceps.

Pushing the stone within the spoon-shaped jaws of the forceps with the fingers of my left hand, I with some trouble removed it. The irritation caused such expulsive efforts that I feared eversion of the bladder. Telling the assistant to pinch the mare across the loins, I threw into the bladder an injection of hot water. The injections were not long retained, but they served the purpose of allaying the irritation and washing out the bladder. The removal of the stone had caused some bleeding, but it soon stopped, and I used injections of warm water and tr. opii. As soon as the expulsive efforts had subsided sufficiently I made another examination. Found no gravel, but as far as my finger could reach the mucous membrane felt thickened and spongy.

After waiting a short time, I again injected into the bladder water acidulated with nitric acid; put her in a warm stall with an extra blanket across her loins. As long as she manifested any irritation of the parts she received tr. hyoscyamus ℥ss. in Oi flaxseed tea every two hours.

Light and soft feed. In a few days she resumed her work with no further trouble. The stone is spherical and slightly flattened. Dark, reddish brown externally, but showing a dark mulberry-shaped centre, where the jaws of the forceps have removed the outer incrustation. The centre is hard, but the outer covering roughened, and appearing as little tubercles, is easily broken away.

This external covering, or more recent deposit, is one-eighth

of an inch in thickness. The weight is 1 oz. 5½ dr. Think that fully 2 drs. was removed by the crushing of the forceps. It measures 5x4½ inches. Tested for uric acid with murexid test, but failed to get result. Insoluble in caustic potash; then tested for oxalate of lime. Soluble in mineral acids, and under the blow-pipe got a dark ash, which, when applied to moistened red litmus paper, turned it blue. Also got the odor of burning hair, said to be due to uric acid. I didn't get any results from the murexid test, but think that I have a mixed oxalate of lime calculi.

As this is the second cystic calculi I have removed within two years, should like to hear from some of the brethren and become better informed on the subject.

EXTRA ŒSOPHAGEAL ABSCESS; ULCERATION OF ŒSOPHAGUS.

By the Same.

Jan. 6th, saw four Shetland ponies, one stud and three fillies, recently imported by Mr. F. A. Wells, of this city. Found them all suffering from suppurative climatic fever, with pulmonary complications. All did well under mild stimulant treatment, combined with steaming with vapor medicated with carb. acid and tr. iodine; poulticing the enlarged inter-maxillary glands, and later on evacuating the pus and treating antiseptically.

Sunday, Jan. 25.—Upon placing my hand on the neck of one of the fillies I discovered a tumor. The hair being thick and long had prevented its being noticed before.

Tumor was situated on median line, inferior surface of neck, at the upper third. The left side of the tumor was the most protruded, and the mass was hard, hot and painful.

The trachæ was slightly pushed to the right, although there was no difficulty in breathing, and neither solids or liquids caused dysphagia. Supposing it to be an abscess forming, due to suppuration of inferior cervical glands, I bound a large sponge over the enlargement, and kept it saturated with hot water.

Tumor enlarges and breathing is gradually interfered with until Jan. 30, when the little animal is roaring. The enlargement

then extended from the flexure of the neck with the inferior maxillary bone, downwards for the upper two-thirds of the neck.

There was a doughy feeling but no fluctuation. I introduced small trocar and canula; got a few drops of thick pus, made incision of an inch at the point where the incision for the operation of trachæology would be made.

Evacuated about 12 oz. of pus mixed with masticated food of a fœtid odor. An exploration with the finger reveals a rupture of the œsophagus, in its upper third, of about an inch. Gave water, and the entire amount taken in at the mouth was collected from the opening in the neck.

Cleansed the wound and reported to owner. As I was obliged to go out of town, did not see the animal till the next day; had the owner's consent to anything that I saw fit, as he considered the case hopeless.

The temperature at this time was 100⅘°. Was thin in flesh, but had no trouble from the inter-maxilliary abscesses. Secured the animal, and using a flexible catheter as a probang, found that there was no stricture.

Edges of ulcer felt hard and granular. Concluded that the collection of pus had ulcerated through the coats of the œsophagus.

Enlarging the incision on the median line to about four inches, I cleaned out the food, and then made counter-opening on side of neck in jugular groove in front of vein. This counter-opening was directly over the opening in the œsophagus, and when water was given, it could be seen to escape from the gullet. When the finger was placed over the opening, no water escaped. Dressed antiseptically and packed full of oakum, which was retained by a tent of oakum drawn through the openings in the skin. The ulceration of the œsophagus was left to take care of itself. The animal was then placed in a stall with no bedding. No hay or solid food to be given, and the diet to be wholly liquid, consisting of milk and gruels. In a week's time there was a perceptible closing of the ulcer by granulations, and in two week's time cooked oats and bran was allowed. No attention was paid to the ulcer, further than to keep the drainage good.

The cavity of the abscess was kept clean and packed with oakum twice a day at first, but finally, when it was impossible to get even the tent through, all dressing was discontinued. In a month's time there was no trouble from the escape of food or water, but a fistula had formed at the first incision. The opening on the side of the neck had closed. The walls of the fistula were scarified. Villate's solution, and then a solution of argenti nitratis was injected, and finally the opening was closed. In six weeks from the time of operation the animal was sent to join its companions in the country.

MURIATE OF COCAINE IN VETERINARY PRACTICE—REMOVAL OF A LARGE FIBROMA OF THE EYELID.

By C. L. Moulton, D.V.S.

I recently had occasion to remove a tumor from the upper eyelid of a horse here in Washington, D. C. After consulting with an eminent ophthalmist in practice here, I concluded to try the new anesthetic "muriate of cocaine;" and I must say the results exceeded my most sanguine expectation. I introduced four drops of a four per cent. solution in the eye by pouring it into the under lid, and after waiting five minutes put a twitch on the subject's nose, and made an incision from above to below at least an inch and a half long directly over the growth to be removed. With a small pair of scissors I then proceeded to enucleate the tumor, which was simply a fibroma well embedded in the tissues of the lid, including the levator palpebræ, a portion of which I was obliged to remove, as well as a part of the conjunctiva lining the lid. At no time did the horse manifest any signs of pain, and at all times since he has allowed the wound to be dressed with a composure which shows plainly that he has no unpleasant recollections of pain suffered at any time during the operation. Of course this is but one case, yet I am satisfied from observation then made that all ordinary operations on the eye can be performed without casting one patient, which I consider a very desirable attainment.

INVERSION OF THE VAGINA.

By J. Benner, V.S., of Bermington, Kans.

On Sunday, April 12th, at noon, was called on by Mr. G., who stated that his man was in from the ranch, 10 miles distant, to inform him that a cow had that morning early thrown out the uterus. Informed the gentleman that having spilled carbolic acid on my hands (causing sores,) I was unfit to take hold of the case, but if he could furnish help I would direct the work.

On arriving at the place found cow recumbent with the presence of a tumor between the labia of vulva as large as a man's head. This was with great difficulty returned. No examination for reason above stated. Administered opii., applied Delwart's Truss, gave directions as to feeding, &c., and left the case.

Saw Mr. G. on the following Thursday, who informed me that the cow was all right.

On Saturday afternoon, April 18th, after I had traveled about 40 miles to see patients, received a message saying that the accident had again happened that morning. Again proceeded to the ranch, found patient as before described; (hands now well). Examination per rectum revealed a fœtus the size of a rabbit. This exploded the diagnosis of inverted uterus, and plainly showed it to be one of inversis vagina. Had patient put in stall; posterior parts elevated; tumor made clean with tepid aqua, with a little tr. opii. and acid acetic mixed. I then by hard work returned the organ to its proper place; smoothed down all folds that might irritate and cause straining; then put two strong sutures through the lips of the vulva. Patient continued to strain despite my efforts to stop it by opii. q. s. I then made two small incisions through the skin one-fourth inch apart on the back a few inches anterior to the tail, and put a small stick through the opening; this seemed to have the desired effect of stopping the straining. Patient commenced eating, and seemed as well as ever. Gave instructions as to medicine in case of straining or uneasiness, and left for home, feeling satisfied that the case would not require any more attention, only proper care and feed. But imagine the disappointment next morning (Sunday) when I was called out before

breakfast only to learn that the accident had happened the third time.

Having a mule in the barn to operate on that morning, and considerable other work to do, it was impossible for me to see the case before middle of afternoon, when I found patient recumbent and suffering terrible pain; evidently could not last long unless relief was soon afforded; administered opiates. Examination showed the tumor much enlarged and lacerated, leather colored, and pressing heavily on the urethra, bladder filled to its utmost capacity. By holding up the tumor I was enabled to empty the bladder, this gave relief; did not attempt to return the vagina in its lacerated and swollen condition. Resolved to amputate at once, etherized the patient, ligatured the entire inverted mass close to the vulva, made it as tight as two strong men could draw it, and proceeded to cut, tying the blood-vessels as I came to them; just as I finished cutting the patient rallied, struggled and strained violently, the main ligature came off, and with it inverted uterus containing fœtus. This I returned to its place, was not exposed a second, and injected cold water with astringent. Hemorrhage soon ceased. Patient got up without assistance, drank a little water, and picked some hay; gave an opiate dose and some laxative medicine. Left some stimulating medicine to be given during the night, with directions to give some feed if patient would eat, if not to give some gruel, and take the best care possible.

Saw patient at 10 a.m. Monday. Rain had set in the night before; she had become damp, and having had no clothing had chilled; had had no medicine or anything since I left the evening before. Gave stimulating medicine, could not procure any clothing, and only a little corn meal for gruel. This patient seemed to relish, but under the circumstances I gave up hope; it was too far away for me to give the case the attention it needed, and it may be that all the care and attention that could have been given under more favorable circumstances would not have saved life.

Do not want to throw any discredit on Mr. G., who is a banker here, and plenty of business to attend to, and, I presume, would supply all wants at the ranch if the same were made

known to him. I learn this Tuesday evening that the cow is dead, and the medicine returned does not indicate that she died from over-doses.

AMERICAN VETERINARY COLLEGE.

HOSPITAL RECORDS.

SENILE FRACTURE OF THE LAST LUMBAR VERTEBRÆ.—LUXATION OF THE SACRO ILIAC JOINT.—DEATH.

By W. Dimond, D.V.S., House Surgeon.

This fracture occurred in a small chestnut gelding, about twenty years of age, which entered the hospital on the 23d of March and was destroyed on the 31st, after presenting symptoms of progressive paraplegia.

The history of the case was, that about three weeks before his admission he had been either driven or ridden hard by the owner; that he was put into stable, being apparently as well as usual, and that the next morning he was found quite stiff behind. Dr. Liautard was called, and from the symptoms presented made a diagnosis of sprain of the muscles of the lumbar region, the psoas muscles being probably also involved. The animal was placed under treatment, and after ten or twelve days was so much improved that attendance was discontinued. Rest and short, careful walking exercise were recommended. During the whole time he had been able to lie down and get up without any trouble.

Some ten days afterwards, word was received that the animal was much worse again, being very lame in the near hind leg, suffering with lancinating pains, and apparently moving with great unwillingness. On backing him out of his stall to examine him, the animal slipped and fell on his left side. He made several attempts to rise but failed; being able to raise his front parts, his hind quarters remained on the ground, the animal assuming the dog-sitting position. Another attempt, however, enabled him to rise on his hind legs, in the manner of a cow, but he was then

unable or unwilling to raise the front part of his body. With much assistance and trouble, he was however, put upon his four legs. It was then found, on moving him, that much stiffness existed in the near hind leg, and that the stifle joint was much swollen and tender, and complications of lameness of that articulation were looked for as a proper diagnosis. It was then that he entered the hospital. A blister of oil of cantharides was rubbed on the joint and a small dose of aloes, ʒ v given, which produced a very severe effect. The animal was now placed in slings, no noticeable change having been observed.

Upon coming into the hospital on the morning of the 30th the animal was found to be lying down in the slings. He refused to get up, and it was with difficulty that he was raised on his four extremities. Then he would stand upon them but for a moment, and fall down at the first move asked of him. He was entirely paralyzed behind. The case was complicated with meningitis. Examination of the retina seemed to reveal an injected condition, which, with the difficulty that the animal exhibited to drink when water was offered to him, rendered justifiable a diagnosis of cerebro-spinal meningitis. Treatment in that direction was prescribed, but the animal rapidly grew worse, and becoming delirious, was destroyed.

Post mortem.—On opening the abdominal cavity, its contents, in a healthy condition, were removed. The sub-lumbar region on both sides, and extending downwards alongside the anterior outlet of the pelvis, was the seat of a bloody infiltration, forming a large clot on each side of the median line, about nine inches long and four inches wide. This was situated outside the peritoneum and the psoas muscles. These were softened and easily torn. On being removed they uncovered a fracture of the last lumbar vertebra, with a laceration of the ligaments of the sacro-iliac articulation. The articular surfaces of the sacrum were deeply ulcerated. The left femoral nerve was infiltrated. On drying the bones, the vertebra, sacrum and ilium were found much softened. They were very brittle, and crumbled readily between the fingers, assuming the general character of bones in which the earthy salts are most prominent, as met in those of old animals.

LARGE MELANOTIC TUMOR OF THE TAIL—REMOVAL WITH THE ELASTIC LIGATURE—RECOVERY.

By J. W. Scheibler, D.V.S., House Surgeon.

The owner had bought the mare. which is a fine gray animal some ten years old, some three months ago. A short time afterward he noticed a tumor making its appearance on the upper part of the tail, about the sixth caudal vertebra. This he found growing quite fast, and then treated it himself by the repeated application of nitric acid, which in time seemed to cauterize the enlargement, and cause its disappearance. Soon, however, it began to grow again, and to assume such dimensions that he decided to send her to the American Veterinary College for treatment.

When she was admitted on the 5th of April the growth was nearly the size of the two fists of a man, measuring four inches in circumference at the base, which made it look as being pedunculated above the base, enlarging it to such extent that it measured a circumference of over nine inches toward its face. The tumor is slightly soft, irregularly roughened, here and there ulcerated. allowing the escape of a very offensive thin sanious and blackish discharge.

Treatment.—The tail having been carefully washed, and the hairs braided or clipped round the tumor. an elastic round ligature was applied at the base, firmly tightening it by three turns all round, and securing it with a double knot. A dressing of oakum was placed over it, being careful to pack it between the growth and the skin, so as to prevent them from sticking together. A roll of bandage kept the dressing in place.

On the following day, 10th of April, the dressing was removed. It was then found that the process of mortification had scarcely begun on account of the ligature having slipped off. It was then replaced, and the knot more firmly secured; a similar dressing was again put on.

On the 11th the tail had a different aspect, the tumor was noticed softened, diminished considerably in size; it had ulcerated in several places, which seemed to have allowed the escape of much pus, and part of its external covering was removed by the scissors without any sign of pain on the part of the animal. A

carbolic acid dressing was then applied as on the previous day.

On the 13th the growth had yet much shrunk away, and there remained so little of it that the ligature was taken off, and the balance of the peduncle of the tumor dissected out, the edges of the wound being carefully cleaned of all mortified tissue. There remained then on the top of the tail a cavity about 2½ inches long and 1½ wide, and nearly one inch deep. The wound was dressed antiseptically with carbolized oakum and bandage.

From this day till the 24th, when the animal was discharged with a very small superficial ulcer as the remains of her former difficulty, the wound gradually proceeded towards granulation, and with the removal of a few minute specks of melanotic deposits presented no difficulty towards radical recovery. The only fear that can be entertained to that effect is the fact, that though no other growth could be detected upon any part of the body, there existed at the inferior face of the tail a small tumor scarcely the size of a hazel nut, whose growth, after all, as in the history of such degenerations, may be stimulated by the removal of the former tumor.

EXTRACTS FROM FRENCH AND BELGIAN JOURNALS.

BRIGHT'S DISEASE IN THE DOG.

By M. A. Mathis.

A setter thirteen years old presented the following symptoms: disposition quiet, capricious appetite, constipation, great thirst, abundant micturition, greatly marked lean condition. A diagnosis of diabetes is made which is not confirmed by examination of the urine—but in both the nitric acid test and heat show great quantities of albumin. After a few days the animal died, and at the post mortem the diagnosis of chronic Bright's disease was confirmed. 1st, general arteritis and periarteritis well marked; 2nd slerosis by extension of the vascular lesions; 3rd atrophy and degeneration, disparition of the epithelium, obliteration of the canali uriniferi, and formation of miliary cysts. The heart was somewhat hypertrophied and the mitral valve thickened.—*Journal de Zootechnie.*

RECTAL ETHERIZATION.

By M. Cagny.

This experiment was made on a horse.

A tube Pasteur similar to those used to keep vaccine for charbon was employed, containing thirty grammes of ether. At its mouth an india rubber tube was secured, with a smooth round canula. The tube was placed in a vase containing warm water, the heat of which stimulated the evaporation of the ether; in a few minutes the animal was sufficiently brought under the influence of anasthesia without any of the symptoms of excitement observed in cases of etherization by the nose.

In this experiment, the animal standing up, the canula and the india rubber tube was placed in the rectum; in a few moments the sphincter of the anus was less contracted; the tail powerless, the eyes had lost their bright expression, the animal seemed ready to fall asleep. The assistant at the head claimed to have already smelled the oder of ether, and at that moment the animal was safely thrown down and secured. In this case the anæsthesia is said to have been sufficient to allow the animal to be operated for a keraphyllocele, and to be dressed afterwards without being obliged to have recourse to the fixing of the legs, as is generally required in similar cases.

TRAUMATIC GANGRENE OF THE TONGUE.

By M. Barrier.

The entire free or anterior portion of the tongue of a dog became gangrenous under a most singular and probably unique condition. It was due to the stricture produced by a portion of the posterior aorta of a horse, which the animal had torn from a piece of meat given to him for food. The *elastic ligature* had allowed the introduction of the tongue through the ring that it formed, and had, by its natural elasticity, compressed—strangulated, so to speak—its anterior or free portion. That part had become swollen, œdematous and gangrenous, and the careful examination of the diseased part had failed to expose the cause. The elastic band, which was deeply imbedded in the tissues, which it had already cut nearly through, was not discovered until the examination made at the autopsy.—*Recueil de Med. Vet.*

REVIEWS.

PRACTICAL VETERINARY REMEDIES,

By G. S. Heatle, M.R.C.V.S.

This is a little work of over a hundred pages, published by R. Jenkins, Esq., of New York City, describing in a simple and concies manner, some of the drugs most generally used in veterinary practice. It is unfortunate that the author should not have confined himself to the subject of his book entirely, and should have thought proper to complete it by a kind of appendix, which in a few pages, attempt to treat of the diseases appertaining to the lower animals.

TWELFTH ANNUAL REPORT OF THE NEW JERSEY BOARD OF AGRICULTURE.

In this volume will be found the interesting work carried out by the veterinarians attached to the Board of Agriculture of that State. The history of the outbreak of pleura-pneumonia, of glanders and of hog cholera, is fully given, and valuable suggestions are made as to the means of their future prevention.

FIRST QUARTERLY REPORT OF THE KANSAS STATE BOARD OF AGRICULTURE.

By this we receive the information that influenza, pink eye, glanders and scab in sheep, are quite prevalent in that State.

SANITARY LEGISLATION.

RULES AND REGULATIONS GOVERNING QUARANTINE AND THE ADMISSION OF CATTLE INTO KANSAS.

State Veterinarian's Office,
227 Kansas Avenue,
Topeka, Kansas, May 2, 1885.

Whereas, The Governor of Kansas did, by proclamation, on the 15th day of April, 1885, "declare and establish a quarantine against the introduction of all animals of the bovine species

from the following-named places, to wit: All of the State of Connecticut, all of that portion of New York lying south of the north line of the State of Connecticut, all of Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia, Virginia, West Virginia, Ohio, Illinois, Kentucky, Tennessee, and the counties of Calloway, Boone, Audrain and Montgomery in the State of Missouri;" and did, on April 28th, 1885, by further proclamation, extend said quarantine so as to include the whole of the State of Missouri, unless all such cattle coming from the above-named localities are quarantined at the point of introduction for a period of 90 days, and retained there until they shall receive a certificate of health signed by the State Veterinarian of Kansas; and further, that all cattle coming into Kansas from the above-named localities be required to enter the state at Atchison, Leavenworth, Kansas City, or Fort Scott:

Now, therefore, we, the Live-Stock Sanitary Commission of the State of Kansas, do hereby promulgate the following rules and regulations governing quarantine and the admission of cattle into Kansas from the above-named localities, to wit:

First—All cattle coming into this State from localities quarantined against, will be required to furnish the following evidences that they are free from disease:

(*a.*) Certificate of health, signed by the State Veterinarian of the State from which they came, or by a Veterinary Inspector of the Bureau of Animal industry, or in States where neither of these officers exist, by a Veterinary Inspector named by the Governor of said State.

(*b.*) Affidavit of two disinterested parties that they have known the cattle in question for a period of four months prior to the date of shipment; that they have been healthy and exposed to no contagious disease; and that no contagious disease is known or believed to exist in the county from which they came.

(*c.*) Certificate of County Clerk of said county, that parties making such affidavit are responsible and reputable citizens of the county.

(*d.*) Affidavit of owner, made at point of entry, that his cattle are the identical cattle described in the foregoing affidavits and certificates; that shipment has been direct and without unloading, except for feed and water, and in cleansed and disinfected cars.

(*e.*) Affidavit of owner that the cattle will be kept separate and apart from all cattle belonging to other parties, for a period of 90 days.

(*f.*) All the foregoing evidence to be submitted, at the point of entry, to the Live-Stock Sanitary Commission, the State Veterinarian; or an authorized inspector of the State, when permit for shipment may be issued.

Second—On all cattle inspected and receiving permit for shipment, a fee of 50 cents a head will be charged.

Third—No railway company doing business in this State will receive for shipment into the State, any cattle coming from the quarantined localities unless accompanied by the aforesaid permit.

Fourth—Cattle not receiving permits, and placed in quarantine in accordance with the provisions of the Governor's proclamation, will be held at the expense of the owner, subject to such rules and regulations as the Sanitary Commission may prescribe.

EXTRACT FROM CHAP. 2, SPECIAL SESSION LAWS OF 1884.

"SEC. 21. Except as otherwise provided in this act, any person who shall violate, disregard or evade, or attempt to violate, disregard or evade, any of the provisions of this act; or who shall violate, disregard or evade, or attempt to violate, disregard or evade, any of the rules, regulations, orders or directions of the Live-Stock Sanitary Commission establishing and governing quarantine, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined in any sum not less than one hundred nor more than five thousand dollars."

By order of the Live-Stock Sanitary Commission, State of Kansas.

A. A. HOLCOMBE, *Secretary.*

SOCIETY MEETINGS.

AMERICAN VETERINARY COLLEGE.

The Alumni meeting of the American Veterinary College was held at 11 a.m. on the 4th of March, Dr. R. McLean in the chair. After reading the minutes, the following members answered to roll call:—Drs. McLean, Miller, Johnson, Zuill, Howard, Pendry, Dixon, Hoskins, Ryder, Fields, Allen, Huntington and Kemp.

Under reports of committees, Dr. Coates informed the Association that he had purchased as the Alumni Prize, Billroth's Surgical Pathology, Hill's Bovine Pathology and Robertson's Equine Practice, which was accepted.

The report of the Treasurer showed a much more gratifying statement than for several years, showing a balance on hand of $22.70.

Under the head of Admission of New Members, the Class of '85 were introduced to the members by a committee composed of Drs. Coates, Howard and Ryder, after which they were welcomed in a few choice remarks of the President.

The following members were chosen for officers for the ensuing year:—President, W. Horace Hoskins; Vice-President, Drs. S. K. Johnson and L. H. Howard; Secretary, W. H. Pendry; Treasurer, Dr. S. S. Field.

Dr. Faneuil D. Weisse, Secretary of the Board of Trustees, then addressed the meeting on the broadening of the work of the Alumni Association, and to accomplish this he strongly urged the creation of Resident State Secretaries, in conjunction with the regular Secretary. His remarks were well received, and an amendment was added to the constitution creating such officers and the appointment of the same placed in the hands of the Executive Committee.

The retiring President then thanked the Association for the honors conferred upon him, and introduced the incoming officer.

The meeting then proceeded to the election of a member to the College Board of Trustees, in place of Dr. C. W. Hall. Several names were suggested, and after some discussion as to the requirements, Dr. W. B. E. Miller, of Camden, was elected for the unexpired term.

The Secretary in a short paper completed his history of the Alumni Association, which was received and ordered to be recorded.

The following members were appointed on the Executive Committee:—Drs. Coates, McLean, Dixon, Miller, Howard, Johnson and Kay, after which the meeting adjourned.

W. H. Hoskins, *Secretary.*

NEW YORK STATE VETERINARY SOCIETY.

The regular monthly meeting of the New York State Veterinary Society was held on Tuesday, May 12th, at the American Veterinary College, New York. The President, Dr. R. A. McLean, in the chair.

The members present were Drs. Burden, Coates, L. McLean, Birdsall, Dixon, Johnson, Liautard, Dimond, R. A. McLean, Bath and Pendry. Dr. Gerth, Secretary of the New Jersey State Veterinary Society, being present on invitation.

A letter was read from Dr. Kay, stating it would be impossible for him to be present to read his promised paper. Dr. Liautard then read a paper, entitled "Medicus Veterinarius and Medicinæ Doctoris."

The reading of the paper was received with marked attention, and no disposition was shown by those present to open a discussion on the subject, but the chair pressing for one, Dr. Coates started it by saying that, as he was one of those referred to in the paper, it was perhaps natural to expect that he would say something. During his remarks, he admitted that some of the facts stated by the essayist were correct, but to some he was obliged to take exception. He contended that he had increased his knowledge by taking up human medicine, particularly in pathology and surgery, yet admitted that, if the course of pathology given in veterinary medicine was equal to that given in human medicine, it would be foolish and a loss of time for a graduate of veterinary medicine to become an M.D. At the same time, he claimed there were many advantages, both social and otherwise.

Dr. L. McLean agreed entirely with the essayist, and took exception to some of the remarks made by Dr. Coates, especially as to the social idea, though he humorously remarked that, if he were in the matrimonial market, he like some others, might possibly take a different view of that point.

Dr. Gerth held with the essayist, though he was able to state from his own knowledge that, in our pathology, we were far behind the French and German schools.

During the discussion, Dr. Pendry said the reading of the paper had evidently done good in bringing to view the weak point in veterinary education. He could see no reason why this could not be remedied; it had been contended that the veterinary schools had not the facilities for giving as perfect a course in pathology as given in human medicine; if this was so, why not veterinary students take that course where necessary facilities were? This was done by other veterinary schools. The chair took exception to the paper read, and gave his reasons. Dr. Liautard replied by saying that he was very pleased to find that the general idea, as laid down in his paper, was so generally agreed with. It was a subject well worthy our serious consideration, and hoped it would receive further discussion at some future time.

A vote of thanks was extended the essayist, and the Secretary was requested to send the paper to the AMERICAN VETERINARY REVIEW for publication.

Dr. R. W. Findlay appeared before the Society to make a statement regarding the amalgamation, during which he said he had taken legal advice as to the form of papers to be drawn up and filed, to properly complete the amalgamation, and had been informed that before any papers relating to any act of each organization could be filed, they would have to be drawn up so as to make each body a party to the same, and signed by the respective officers. Without this, the papers filed would simply be a desire expressed, and not any act.

Dr. L. McLean asked what were the conditions of the amalgamation, and at the request of the Chair, the Secretary said, that all that was now necessary to consummate the matter, was proof that the New York State Veterinary Association had been legally disbanded. Dr Liautard considered the matter was pretty well understood, and moved that the Executive Committee of both organizations

come together and draw up the necessary papers, and that they be signed by the officers of the Society. This motion being seconded, was put to the meeting and carried.

The Chairman of the Board of Censors said they were not able to report fully on the matters before them at this meeting, at the next meeting a full report would be ready.

Wm. H. McCaldon, M.R.C.V.S., was proposed for membership, and referred to the Board of Censors.

On motion, the meeting adjourned, to meet in Brooklyn, on Tuesday, June 9th. W. H. PENDRY, D.V.S., *Secretary.*

ANNUAL MEETING OF THE MASSACHUSETTS VETERINARY ASSOCIATION.

The second annual meeting of the Massachusetts Veterinary Association was held at Young's Hotel. Boston, Wednesday evening, April 1st. The President, Dr. W. Bryden, occupied the chair, and there were present thirteen members, viz: Drs. Billings, Blackwood, Bunker, Alderman, Harrison, Osgood, Shally, J. S. Saunders, Sherman, Winslow, Winchester and Howard.

After reading of minutes of the previous meeting, and their adoption, the name of A. W. Clement, V.S., was proposed for membership, his credentials having been previously favorably reported on by the Executive Committee. On ballot he was unanimously elected to membership.

Election of officers for the ensuing year was next in the order of business and resulted as follows, the vote being a unanimous one: For President, F. S. Billings, V.M.; Vice-President, J. S. Saunders, D.V.S.; Secretary and Treasurer, L. H. Howard, D.V.S.; Executive Committee, J. M. Skally, V.S., W. Bryden, V.S., W. T. Simmons, M.R.C.V.S.

On retiring from the chair, Dr. Bryden, in a few remarks, kindly thanked the officers and members for their hearty co-operation in this, the first year's work of our association, and predicted for us a most successful future.

Dr. Billings assumed the chair, and a vote of thanks was tendered the retiring officers.

At the suggestion of the President, it was *voted* that a committee be appointed to consider the matter of procuring a charter for the association. According to the remarks of some of the gentlemen, the present session of the Legislature is already too far advanced to grant a *special* charter, though a charter under the *general laws* may be obtained at any time. The general sentiment seemed to be in favor of a special charter, but after some discussion of the subject it was left to the discretion of the committee appointed, viz: Drs. Bunker, Bryden, and Winchester.

Thus far all meetings of the Associatian having been held in Boston, Dr. Billings suggested that an assembly in another part of the State might be productive of good, by creating in other sections an interest in our work and meetings.

Dr. Winchester suggested as a compliment to Dr. Osgood, of Springfield, who has been a very regular attendant at our meetings, and a much interested member, that the next meeting be held at Springfield. On Dr. Winchester's motion to that effect it was *voted* that the next meeting of this association be held at Springfield. The date of meeting was afterward appointed for May 1st, at 8 o'clock, P.M., Dr. Osgood being asked to make all necessary arrangements for our accommodation, etc. The essayist will be Dr. Billings, who will demonstrate Koch's method of bacteria cultivation.

On motion of Dr. Osgood it was *voted* that the members of the medical profession in Springfield, the Connecticut Veterinary Medical Society, Drs. J. and Geo. Penniman of Worcester, and Dr. Brackin of Pittsfield, be invited to be present.

Dr. Bunker then exhibited a very interesting pathological specimen, viz: An embolism of the femoral artery nearly eight inches in length.

The history of this case in brief is, that about six weeks previous, the animal' a chestnut gelding eight years old, showed lameness in right hind leg. He would start from stable sound, and begin to show lameness when he had travelled about a third of a mile, which lameness kept increasing as he went further, till it became very severe. On being allowed to stop, the animal would raise and lower the leg in an uneasy manner for a few moments, and finally remain quiet. The temperature of this leg being much lower than the other, in fact *cold*.

These symptoms continued with more or less variance for six weeks, when the animal was destroyed, and the post mortem examination revealed the embolism mentioned.

At eight o'clock dinner was announced, and the company adjourned and partook of a very bounteous repast, some two hours being spent at table in consumption of the edibles and listening to very pleasant toasts and after dinner remarks.

The meeting again called to order listened to the reading of a paper by Dr. Harrison on "amputation of the penis." The essayist noted the indications for operation, calling attention particularly to carcinomotous affections.

He then described in detail the modus operandi, recommending that the *urethra* be not divided at the point of amputation of the *body* of the penis, but that it be left projecting about an inch, this portion to be divided and the flaps secured back by sutures.

He mentioned four cases in which this operation had been successful and afforded permanent relief; and one case in which the amputation had been effected with the ecraseur, dividing the entire structure of the penis at a given point, the result being fatal.

Some discussion of the subject took place, participated in by Drs. Bryden, Saunders, Winchester, Skally, Osgood and Billings, and it was *voted* on motion of Dr. Osgood, that the discussion be continued at the next meeting.

A vote of thanks was tendered the essayist, and the meeting was adjourned.

L. H. HOWARD, *Secretary*.

CORRESPONDENCE.

FORT WALLA WALLA, W. T., May 11th, 1885.

Editor of AMERICAN VETERINARY REVIEW:

DEAR SIR.—I regret to have to announce the death of James Humphries, V.S., of the 2nd U. S. Cavalry, who died in San Francisco on 31st Dec., 1884, from glanders.

Mr. Humphries came to this country from Bloomsbury, Manchester, England, and graduated from the Ontario Veterinary college in 1878.

He moved to Harrisburg, Pa., and soon established an excellent practice.

In 1879 he gave up private practice, and entered the army service, being appointed veterinary surgeon to the 2nd cavalry, and held that position until his death. He was highly respected by the officers of his regiment as a gentleman and skilful practitioner, and in his death the profession has lost one of its most valuable workers. It was Mr. Humphries' great object to promote the interests of the veterinary profession in the army, and had he not been so soon cut off, his efforts must have been successful. While holding a post-mortem on several glandered horses, it is supposed that he became inoculated with the virus through a cut on his finger.

Respectfully,

E. R. FORBES, V.S.,
2d Cavalry U. S. A.

VETERINARIANS WANTED.

CLEARFIELD, Pa., April 15, 1885.

DEAR SIR.—We are badly in need of a veterinary surgeon here. Can you reccommend any one to me? We have no one near this place. A good one can do a good business. Let me hear from you.

Yours,

JAMES L. LEARY.

MANKATO, Minn.

SIR.—I am looking for a regular graduate in veterinary medicine and surgery. The city of Mankato has a population of 8000, and is rapidly increasing, with a large and thickly settled country around it. I was talking with one of the most prominent human physicians, who is largely interested in live stock, and he told me that there was a fortune awaiting such a man, for Mankato is bound to be in time the finest place in the northwest; and I would like to see a thoroughly competent man settle here; his practice would extend from twenty to forty miles around. Hoping to hear from you, I remain yours,

GEORGE RIVERS, Box 710.

NEWS AND SUNDRIES.

MICROCOCCI IN RELATION TO WOUNDS—ABSCESSES AND SEPTIC PROCESSES.—In a report to the British Medical Association, Dr. W. Watson Cheyne gives the following summary:

1. There are various kinds of micrococci found in wounds treated antiseptically, differing markedly from each other in their effects on animals. They agree in growing best at the temperature of the body, and in causing acidity and sweaty smell in the fluids in which they grow. The experiments show that cultivations may be carried on in fluids with accuracy, provided the precautions mentioned be observed.

2. The micrococci treated in these experiments grew best in materials exposed to oxygen gas. They grew only with difficulty in the absence of oxygen. Eggs were not good pabulum.

3. Their effect on animals was not altered by growth with or without oxygen.

4. The effects of these micrococci on rabbits and men were not similar, some of the most virulent forms for rabbits causing no deleterious effects in wounds in man.

5. The kidney is apparently an important excreting organ for organisms.

6. Organisms not capable of growing in the blood may yet cause serious effects by growing in the excretory canals. This may explain some cases of pyelitis.

7. Where an organism is not markedly pathogenic, it may be necessary to introduce a large quantity before morbid changes are set up.

8. Suppuration is not always due to micrococci; it may be caused by chemical irritants, such as croton oil.

9. Micrococci are always present in acute abscesses, and are probably the cause of them.

10. In some cases the micrococci are the primary cause of the inflammation and suppuration, as in pyemic abscesses; generally, however, they begin to act after inflammation has been previously induced.

11. This inflammation may be caused by an injury, by the absorption of chemically irritating substances from wounds, by cold, etc.

12. There are several different kinds of micrococci associated with suppuration.

13. Micrococci cause suppuration by the production of a chemically irritating substance, which, if applied to the tissue in a concentrated form, causes necrosis of the tissue, but, if more dilute, causes inflammation and suppuration.

14. The conditions in wounds and abscesses are not the same, inasmuch as in the former there is opportunity for mechanical and chemical irritants to work.

15. There is no reason for denying the existence of "antiseptic" suppuration.

16. Tension may also cause suppuration, but it is perhaps most frequently aided by the growth of micrococci. These organisms need not be of a very virulent kind. It is also probable that the products of inflammation are themselves irritating and capable of exciting or keeping up inflammation.

17. The micro-organisms of septicemia, of pyemia and of erysipelas, are different from one another and from those of abscesses. In erysipelas the micrococci grow in the lymphatic spaces; in pyemia they grow in the blood to form colonies and

emboli; in septicemia they may only grow locally, the symptoms being due to the absorption of their ptomaines; or if they grow in the blood they do not form colonies and emboli. Septicemia may also be due to other organisms besides micrococci.

18. There are no facts to support the view that it is the sam micrococcus which, under different conditions, cause these various diseases. The experiments of conversion of innocent into malignant forms, and *vice versa*, are unreliable.—*The Western Medical Reporter.*

Corrosive Sublimate as a Surgical Dressing.—Sir Joseph Leister tells us that several instances have recently occurred of results deviating from his typical experience in antiseptic treatment, such as he was in no way prepared to meet with, and in one case a fatal event ensued. Casting about for the cause of these failures he came to the conclusion, which is a very plausible one, that volatile antiseptics, such as he had been using, principally eucalyptus and carbolic acid, were unreliable, owing to the very fact of their volatility, which not only rendered their proper preparation by the manufacturer very difficult, but also rendered them very liable to lose their antiseptic properties in a very short time, even when properly prepared. Iodoform, as he says, is not so volatile, but his experience does not recommend it as a very efficient germicide.

Dr. Koch's experience with corrosive sublimate, which is non-volatile, caused him to turn his attention in this direction, and his results have been very satisfactory.

Sir Joseph Leister says that sublimate combines with albumen to form not an albuminate, properly speaking, but a simple mixture of the two, and that this mixture is much less irritating than a watery solution of corrosive sublimate; and serum which has been passed in small quantities through a gauze containing sublimate will not undergo decomposition, though inoculated with putrifying materials.

As the result of the discovery of the less irritating nature of the combination of albumen and sublimate, a sero-sublimate gauze has been prepared. Sir Joseph Leister finds that a sero-sublimate

gauze containing two to four per cent. by weight of sublimate is apparently non-irritating; while, at the same time, it is an effectual anticeptic dressing.—*The Western Medical Reporter.*

STATE VETERINARIAN OF MISSOURI.—Dr. Trumbower having declined the appointment as State Veterinarian of Missouri, Governor Marmaduke has tendered the position to Dr. Paquin, a graduate of the Montreal Veterinary College, who has accepted. —*The Breeder's Gazette.*

TAPE-WORM IN LAMBS.—It is reported that heavy losses have been experienced in lambs from tape-worm by the sheep raisers of Colorado.

WYOMING STOCK-GROWERS' ASSOCIATION.—The twelfth annual report of the executive committee and secretary of the Wyoming Stock Growers' Association, as published in the *Northwestern Live Stock Journal*, is full of interest, and shows plainly that this association is fully alive to the dangers from the contagious diseases which threaten its herds. Dr. Hopkins and the association are to be mutually congratulated on account of the efficient work already accomplished.

EXCHANGES, ETC., RECEIVED.

FOREIGN.—Veterinarian, Veterinary Journal, Quarterly Journal of Veterinary Science in India, Annales de Medecine Veterinaria, Clinica Veterinaria, Recueil de Medecine Veterinaire, Presse Veterinarie, Echo Veterinaire, Gazette Medical, Revue d'Hygiene, Revue fur Thierheilkunde und Thierzucht, Journal Zootechnie, etc.

HOME.—American Farmer, Country Gentleman, Prairie Farmer, Medical Record, Medical Herald, Farmers' Review, Breeders' Gazette, College and Clinical Record, American Agriculturist, Maine Farmer, Science, Home and Farm, Turf, Field and Farm, Spirit of the Times, National Live Stock Journal, Home Farm, Practical Farmer, Druggist Circular, Ohio Farmer, Scientific American, Iowa Farmer, etc.

JOURNALS.—Photographic Times, Western Rural, N. Y. Weekly Times, News and Weekly Journal, Commercial News, Howard's Dairyman, Indiana Medical Journal, Health and Home Journal, The National Stockman, Accidents

News, Wallace's Monthly, Farm and Garden, Home Journal, Eastern Medical Journal, Western Reporter, Dairy World, American Sheep Breeder, Democratic Leader, Philadelphia Times, Northwestern Live Stock Journal, Home Farmer, Farm and Fireside, Home Companion, American Poultry Journal, Farmers' Call, Western Plowman, The Medical Chronical, American Garden, Therapeutic Gazette, Northampton Democrat, The Polyclinic, The Rural Home, The Canadian Breeder, Massachusetts Agriculturist, Drovers' Journal, Washington Chronicle, Arkansas Gazette, Kansas City Journal, St. Louis Critic, Chenoa Gazette, The Advance, American Cattle Breeder, Albany Express, etc.

PAMPHLETS AND BOOKS.—Annual Catalogne of the St. Lawrence University, Annual Catalogue of Dartmouth Medical College, Annals of the New York Academy of Science, First Annual Rhode Island Registration Report, Report of Kansas State Board of Agriculture, Urinary and Renal Disorders, by Lionel S. Beale, M.D.